CARTOGRAPHIES OF INVISIBILITY

A reflection on the potential of maps and diagrams as socio political communication tools.

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(First Draft)

Paloma García García

INTRODUCTION

As an architect, I have learned to think with drawings, maps and diagrams. They have been extremely effective elements for me to discover connections, visualise and raise awareness about hidden realities. Today, in a digital and global era, there is a considerable urgency to question and find new tools and strategies to engage with society. It is precisely in the popularisation and accessibility of maps and diagrams where I understand them as powerful tools for socio-political communication. The production of experimental contemporary cartographies allows mapping to envision vulnerable situations, stimulate collective action and generate documents that activate the reader.

Maps are not exact representations of reality, even though they are often represented as such. Neutrality does not exist in the production of maps nor does it exist in their use, they are always designed with a particular narrative. Cartographies have frequently been used as instruments of power and domination. They define the territory, draw its borders and resources and consolidate the power of economic blocks. Societies have been oppressed through maps converting them in victims of a representation that define where and how they have to live. Maps have frequently been related to technical and reliable knowledge, realities represented in cartographies are considered true, but the scientific objectivity of the maps should be questioned, as well as their intentions. They appear to be supposedly neutral to hide their real interests (Mesquita, 2016).

In the hands of capitalism and powerful institutions, mapping maps been transformed into an oppressive mechanism. They had a crucial role in the history of colonialism. They have been used to order and dominate the colonisers over the colonised. Furthermore, they are considered an institutionalised practice that implied legitimisation of territories. Indigenous communities developed their own cartographies to put themselves in the maps and to defend their lands and rights. More indigenous territory has been claimed by maps than by guns. (Nietschmann, 1995). These communities started to reverse maps representation visualising their resistance and claims. Indigenous cartography was a vital inspiration tool for non-hegemonic worldviews and emancipatory practices.

This critical approach to cartographies, deconstructing traditional maps and diagrams have been explored by artist, architects, designers and activist in the post-colonial era. In the '90s Nancy Peluso introduced the term "Counter-cartographies" in her examination of forest resource mapping in Kalimantan (Whose Woods are those?) and the effort by marginalised groups to contest land-use state maps that had long undermined their interest in these resources. (Lin, 1999) .Where official maps were blank, counter-maps told very different stories fighting geopolitical power structures, exposing relations of domination over and exploitation of territory and revealing networks of power and dominance.

The counter map rethinks the ontology of cartography (*1)breaking the standards of geographic representation and visual communication. They became disobedient graphic evidence where its own form and representation tells inconvenient stories that challenge the status quo. It's a free act of deconstruction of space and social phenomena, for which the protagonists allow themselves to pervert the most classic conventions (*2). Counter-cartographies are understood as maps that break the scientific and expertise tradition of cartography as well as with its mere technical or essentially positivist view of the world (Mesquita, 2016). The objective of experimental mapping is to suggest an alternative epistemology, rooted in social theory rather than in scientific positivism (Harley, 1989).

There is a need for developing "science with people" rather than for people, especially in those fields characterised by " irreducible uncertainties and ethical complexities (Funtowicz & Ravetz 1994). Counter - maps are contemporary models of knowledge exchange to explore. This thesis aims to address three questions. Based on the reversion of traditional power map structures, what make a map be a counter representation and not a traditional one?. Collaborative practices and crowdsourcing are crucial strategies in the process of making counter-cartographies, but why is co-mapping so powerful?. The access and dissemination of experimental maps are essential to make them effective, so how can we use post-digital tools in order to spread maps?

CHAPTER 1. FUNDAMENTS OF COUNTER CARTOGRAPHIES: THE RULE IS THERE ARE NO RULES

Counter-maps have fought against impositions and conventions in cartographic map-making. They are documents which freely envision realities that are misrepresented in "official" cartographies. In this chapter, I am going to discuss how cartographic and visual representation basis are reinvented by critical maps reformulating their fundaments. Counter-maps deconstruct geographical variables, providing an alternative view of the world and its representation. Furthermore, they democratise semiotics fundaments in visual representation, traditionally recognised for achieving the universal standard. Finally, they are breaking the isolation of cartography as an independent discipline close to the ones highly specialised on that and opening a hybrid area to explore where the experiment is above the rules.

DECONSTRUCTING GEOGRAPHIC AUTHENTICITY

Mapping a territory implies an act of reinterpretation and reflection. "Map design can be thought of as mind design; the way a map is designed will influence the views of the world it stimulates or inhibits"(Montello 2002 in Holmes). Traditionally, the World Map has been represented with a series of pre-established rules and protocols where the north is always up and the 'official' projection is Mercator World Map. Nevertheless, the fact that we put north on the top of the map is a result of the economic dominance in Western Europe after 1500. A map does not have a privileged direction in space. After all the earth has no up or down, and no geographical centre. (Turnbull, 1993 in Prater, 2016).

THIS IS A MAP
Fig 1.1 South America map from 1940

Fig1.2: America Invertida by Joaquin Torres. 1943
THIS IS A COUNTER - MAP

Counter-maps break this traditionalism and challenge geographical representation as an opportunity to spread alternative views of the territory. Remaking this representation means subverting the hegemonic, Eurocentric view of the world (Mesquita, 2016). "Having been labelled 'colonial', 'evil', and 'false', the Mercator map is a monstrosity that just won't go away." (Prater, 2016). Every projection of the earth's sphere in flat representations implies a distortion and therefore there is no better representation than another but simply different translation codes. America Invertida designed by Joaquin Torres in 1943 is an early example of the expression of rebellion in geographical representation. In 1876 Lewis Carroll wrote his poem "The Hunting of the Snark" where the usefulness of Mercator map was questioned, determining that the 'perfect map' would be an absolute white document.

THIS IS A MAP
Fig 2.1: Indian ocean map 1874

Fig1.2: White map by Lewis Carroll. 1876
THIS IS A COUNTER - MAP

In recent counter-cartographies, world representation has been frequently deconstructed and reinvented. This is the case of the project Who owns the land? developed by the Argentine duo Iconoclasistas which amplify the work of autochthonous women. The world map is re-oriented in order to emphasise the power of the southern hemisphere where most of the indigenous activities are condensed. Mercator projection is replaced for Gall-Peters representation where each area on the map represents an equal area of land to raise awareness about the real dimension of land in Africa and South America. Another example is the work Mappa Mundi(2008) from Lize Mogel where she reorders the world map based on the connection between places, their histories and processes of globalization.

THIS IS A MAP

Fig3.2: Who owns the land? by Iconoclasistas   THIS IS A COUNTER - MAP

The geographical variable can be denied in counter-cartographies to amplify social, political or crisis realities. Therefore, counter-maps break the link with scientific and technical representations. They are not query items to check specific information but full communicational documents themselves. The Polish-American scholar Alfred Korzybsky promulgate in his best-known dictum "The map is not the territory". Counter-maps are not a representation of territory but the documents that generate alternative realities and produce new spaces. (*5). They are a dialogue between the imaginary and the real world because the map is never a faithful representation of reality even if cartographers and geographers claim the opposite, the map is a pale representation of the way we perceive the world. (*6). "Geography brings here before us what is there now with clarity and accuracy (Ketchum, 2011) a counter map is a reflection on the world, no matter how faithfully or accurate, through some other person's imaginative and interpretative act.".

Maps tend to draw the territory materialising its limits with lines. "A line is a curious concept. It indicates real or imagined partitions sometimes drawn to indicate imposed borders, timelines, ancestry, walls, and property." (Cobb, 2015). Counter-maps release the linkage of the limits to physical realities or geopolitical authenticity, assigning the cartographer the capacity of interpreting, reshape, or imagining their own limits. From the first sketches of experimental cartography such as the Surrealist Map of 1929, until the most current counter-cartographies struggle to find the most appropriate limit for the territories. The experimental architect Pablo del Soto creates in his project Cartography of the Straits of Gibraltar an alternative understanding of the Spanish-Moroccan border region. In this project, the border is not an abstract geopolitical line but an increasingly complicated, contested space . The flows reshape the very border into a border region (Dalton & Mason 2012) Doing so depicts and literally helps produce a different kind of border than the crisp, abstract lines in a traditional atlas (Cobarrubias, 2009 in Dalton & Mason-Deese, 2012).
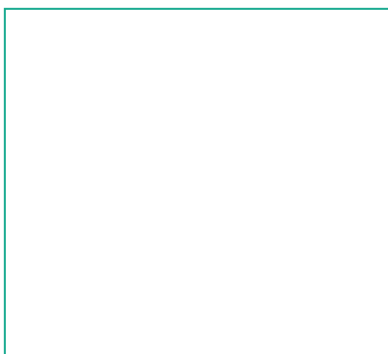
THIS IS A MAP

Fig4.2: Surrealist World Map. 1929   THIS IS A COUNTER - MAP

VISUAL DEMOCRACY, FILLING GAPS OF MISREPRESENTATION IN MAPPING GRAMMARS

The philosopher and sociologist Otto Neurath (*1) created in the XX century the Isotypes that would be considered an early introduction to the pictographic language. This system made data legible and accessible to non-specialised mass audiences (Vossoughian, 2010:61). Its role was decisive in order to raise awareness about the Fist World War. During the War he becomes director of the Museum of War Economy in Leipzig which aim is to educate based on visual information. In 1924 Neurath proposes the Museum of Society and Economy in Vienna, an institution for public education and social information through visual displays. He was a pioneer in the reinterpretation of graphic representation creation both, the space to share it with people and the proper codes to express this knowledge. The German pioneer Fritz Kahn worked in the demystification of complex scientific ideas through an innovative infographic grammar. The creation of a visual language that allows to amplify and communicate a complex reality is crucial in counter maps that transform this information that is concealed, buried in government tables and footnotes or is just not accessible.
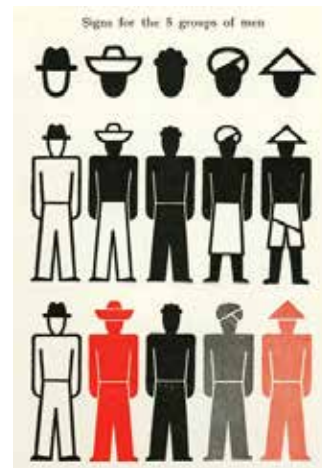
THIS IS A SYMBOL

Fig4.2: Otto Neurath Isotypes
THIS IS A COUNTER - SYMBOL

Graphic communication has inherited many supremacist aspects in recent decades. Isotypes were an invention during the time of European colonialism. Only then it becomes clear that the rhetoric of Isotype as 'objective' and 'neutral' simply meant they represented European colonial standards. In the visual examples non-European countries are grouped and categorised as 'other' (Prater, 2016). In the world of signing it is always 1974, the year when the symbols were designed for the U.S Department of Transportation (DOT) (Prater, 2016) We need an adaptive design that represents the current problems with contemporary visual systems that challenge traditionalisms and standardisation.

In the recent production of counter cartographies, contemporary visual languages have been created. This is the case of the French office Bureau d'Études that generated for their book Atlas of Agendas a specific pictographic grammar in order to visualise political and social concepts and make them accessible and understandable for people creating a is a codification of visual language, decompressing complexities that they process and recoding it again with a new graphic interpretation. Moreover, the Argentinian duo Iconoclasistas have been working in the last years in the improvement of pictographic grammars building dynamic pictographic collections for community mapping in South América. (*3)
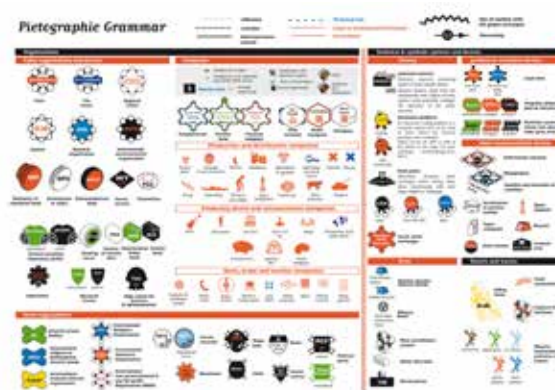
THIS IS A LEGEND

Fig 5.2: Pictographic Grammar Bureau d'Études
THIS IS A COUNTER – LEGEND

The mathematician Rene Thom stated that Visual codes are notoriously unstable, too imprecise to communicate knowledge with certainty (Drucker, 2014). But this instability of graphic codes makes them open and free to reinvent and this is precisely what makes them so powerful in the representation of counter-maps. Visual images are not constructed in a given set of rules (Drucker, 2014) not having rules and protocols to follow, allow map-makers to create the proper and unique grammar for a particular document, converting it not just in a communicational element but in identity and personality of a community. In the project The Hidden Object Map Right to the City, Marc Amann and Markus Wende (*4) they develop a cartoon map displaying protect actions and they describe the project as a document that represents fiction just as it represents the truth. It is an interpretative language that transmits innumerable stories rather than quantitative information (*5) because there is no such thing as emotionless cartography. (*6)

{MORE ABOUT CONTEMPORARY PICTOGRAPHIC GRAMMARS IN COUNTER-MAPS}

CARTOGRAPHIC HYBRIDIZATION

Experimental practices in map-making were born in the intersection between several disciplines working together in the production of cartographic content. Counter-cartographies expand the disciplines that are present in map-making opening a door to build a hybrid and inclusive practice. They revert the nature of cartographic representation and it also implies a fight against monopolistic control of cartographies. The challenge for counter-cartographers is to find a multidisciplinary space to work between psychology, geography, architecture, art, design, politics and sociology. Mapping impulses result from a convergence of a number of shifts in the way we think about representation and space. (Mogel, 2010)

In 1955 French theorist Guy Devon introduce the term psychogeography as the intersection of psychology and geography, understanding the representation of the territory as a phenomenon based on perceptions and emotions of people perceiving urban space, this situationist maps were making cartographies for themselves maximising the experiences that a person has when he/she is walking without a destiny in the city. They challenge the traditional map-making and produced a series of alternative representations based on perception and not in a preset group of rules and protocols.

THIS IS A MAP

THIS IS A COUNTER - MAP

Fig 5.2: Pictographic Grammar Bureau d'Études
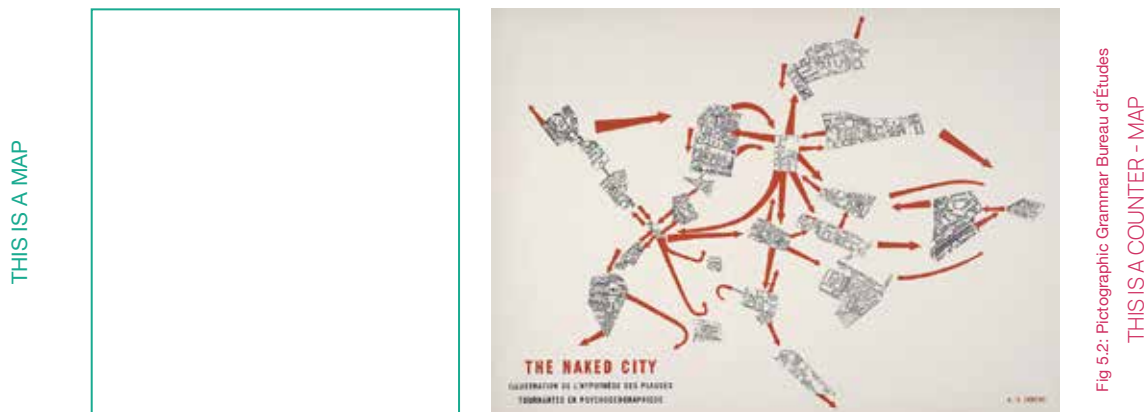
Since Avant-Garde and Dadaism and Surrealist movements, cartographic culture and art have been strongly connected as an area of exploration through maps. The British Cartographic Society proposed that there should be two definitions of cartography, "one for professional cartographers and the other for the public at large." A definition "for use in communication with the general public" would be "Cartography is the art, science and technology of making maps": that for 'practising cartographers' would be "Cartography is the science and technology of analyzing and interpreting geographic relationships, and communicating the results by means of maps." (Harley, 1989). The word art disappears when the definition refers to scientific or technical approaches but it is an indispensable element when cartographies are used as elements to engage with people. "The task of the geographer is to alert us to what is directly in front of us, while the task of the experimental geographer - an amalgam of scientist, artist, and explorer- is to do so in a manner that deploys aesthetics, ambiguity, poetry, and dash of empiricism." (Scott, 2011 - Geohumanities)

Counter-maps and art are strongly related in contemporary practices, the publication An Atlas of radical cartographies edited by Lize Mogel and Alexis Bhagat has been exhibited in numerous museums and galleries all over the world where its counter cartographies have become aesthetics objects to contemplate and these art spaces have been used as network to amplify and spread revolutionary and revealing information.

The transformation of cartography by practices of art activism over the past decades has made it possible to explore alternative models outside of the academic context and beyond purely scientific activities (Mesquita, 2016). Öyvind Fahlström and Mark Lombardi are undoubtedly precursors for today's activism in the art using maps. Fahlström used methods from popular culture to critique and question cultural assumptions about finance, power structures and their representations. (Watson, 2009). In 1972 he published the World map, which challenges the austerity in maps and visualises the instability of imperial power disputed between the United States and the Soviet Union. The activist nature of counter cartographies reinforce the message: 'This is the world you live in even though you may not see this.'(Berwick, 2010). The American Neo-conceptual artist Mark Lombardi also challenge the process of map-making melting it with artistic and activistic practices. He draws hundreds of diagrams that visualise global political and economic networks of power.
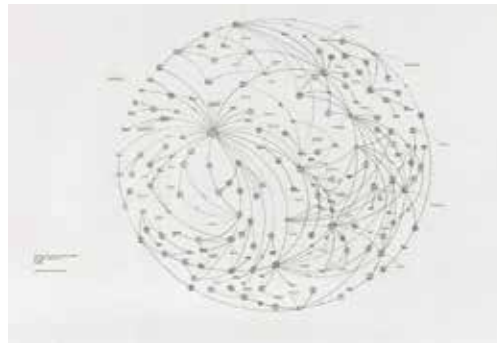
THIS IS A DIAGRAM

Fig 5.2: Mark Lombardi

THIS IS A COUNTER - DIAGRAM

The task of the geographer is to alert us to what is directly in front of you, while the task of the experimental geographer - an amalgam of scientist, artist, and explorer - is to do so in a manner that deploys aesthetics, ambiguity, poetry, and a dash of empiricism. (Scott, 2011). These crossroads between disciplines and languages have no standards to follow. Counter-maps deserve to several branches of knowledge but, at the same time to any of them. This hybridisation frame counter-mapping in an area where the rules are still to write.

CHAPTER2. THE POWER OF CO-MAPPING: LEGITIMATE, CONNECTED AND AUTONOMOUS COUNTER-CARTOGRAPHERS

"The critical or radical mapping approach is not only denouncing but also to act on the ground" (Rekacewicz, 2019). The process of collective mapping allows us to share and create knowledge, establish relationships, and produce new subjectivities. Crowdsourcing processes of map-making are opportunities to interchange knowledge; it is a moment where cartographers and readers can go beyond their roles and acquire new position re-designing hierarchies and structures.

LEGITIMATE COLLABORATION

Participatory practices have a fundamental role in the process of making counter-maps. They bring together distributed knowledge in a common element that is the map. As James Surowiecki's book "Wisdom of crowds" explains: "Many are smarter than few," and this principle applied to cartographic documents means that collective maps are more reliable, honest, and agreed than cartographies developed by small teams. Counter mapmaking is a process of producing knowledge. "The development of participatory counter-cartographies that involve the subjectivities of all those subaltern subjects who are less likely to be represented on maps, is an opportunity to achieve cartographic justice." (Blazquez, 2018)

The participation in the production of collective counter cartographies is a voluntary act that implies an honest response of participation. The acronym VGI coined by Goodchild means Volunteered geographic information and refers to the creation of geospatial content collected and generated by non-professionals using mapping systems, creating a geospatial database (Caquard, 2013). This system is considered "the eyes on the ground" because even though the tools used do not have to be professional or scientific, the data collected have unique local knowledge. This is an assertive method of collecting geospatial information as opposed to the authoritative method employed by government agencies and private industry.

Crowdsourced maps are elements for and by citizens who participate in the production of them stimulated with a wide range of motivations such as idealism, local need, or humanitarian reasons. One of the first motivations in the elaboration of crowdsourced mapping was 'crisis mapping' as we can see in the maps elaborated with Google My Maps after the Jesusia Fire in California in 2009 or the Ushahidi collaborative mapping platform in Port-au-Prince after the Haiti earthquake in 2010. (Coquard, 2013) Due to the local nature that most of the counter maps have, the process of map-making with communities is a tool to connect with society and make them be part of the process of map-making. Citizens feel represented by maps and identify strengths and support change initiatives in their own communities.

((SMALL DATA VS BIG DATA - SOCIAL DATASETS))
Collaborative processed in the creation of social datasets collect data directly from people keeping datasets manageable and reliable this make it even more powerful in quality and optimise their size. They are datasets created for a goal with an intention more than just storage data about everything ??????. They are social datasets to be transformed into communicative elements to help societies to progress.

((LEGITIMIZATION OF AUTORS - USERS AGENCY))
This process is a method to re-activate the public agency in urban and social conflicts.
Users agency
"Community mapping legitimises a diversity of authors and images by altering technical and access barriers" (Parker, 2006)

CONNECTING VALUES OF CO-MAPPING

The mapping process itself enacts a different form of knowledge production that created new social relations and geographies. These experiences highlight the importance of collaboration, trust, and careful consideration of the social context and ethics of that mapping research. It is not only about producing new maps but also creating new forms of social organization (Dalton and Mason, 2012). Community mapping is attentive to the process, not just the product; how participants work together, negotiate, and make agreements issues of place and representation is as important as the map itself. (Parker, 2006). The participatory production of maps is a social tool

to create citizen engagement and to tie links among map makers. Workshops and map-making sessions are understood as laboratories and transdisciplinary spaces where negotiation and local empowerment are values to work on through direct contact with participants in an ongoing dialogue to reach a common goal. Social theory is also connected to articulate the relation between social process and spatial structure, that is, how social forces become manifest in geographies, and how geography is constitutive of social relations (Dear, 2011)

There are substantial knowledge gaps between audiences with different specialization degrees or the public with contrasting backgrounds. It is precisely here where participatory mapping comes into value as a mechanism to build knowledge bridges. In 2013 Teddy Cruz and Fonna Forman developed the project "The Medellín Diagram" that triggered participatory democratic practices and collaborative urbanism. This project had its goal in the co-production of the city from the Botton - up. One output of the project was The Diagram. However, the most enriching aspect was that collective mapping was used as a tool to connect people, to reconfigure social and economic relations and re-thinking of public management. Collaborative mapping techniques were used as an urban pedagogical strategy that directly connects top-down and bottom-bottom knowledge through new interfaces and resources (Cruz, 2015).

Although Collaborative practices work better in local spheres were direct contact is exceptionally efficient, digital technologies allow us to connect people all over the world in seconds in the process of map-making. These instant connections have a lot of beneficial consequences in counter map-making. GIS is a compelling technology, but it is also a social connector. The public participatory GIS (PPGIS) makes a network of community members who have power over GIS technologies. The toolbox of map-making performs a connector role. The online portal Missing Maps produce cartographies of vulnerable areas in the world after a natural disaster where maps that existed are outdated. The production of these maps is conducted in hours or days thanks to online mapping sessions define as "marathon" that connect people from different parts of the world with the common goal of re-mapping sensitive territories.

((*ADD PARAGRAPH ABOUT THE ROLE OF GEOSOCIAL MEDIA IN COUNTER MAPPING))
Geo social media is platform that connects people through geographical information. And how is the role of this platforms in the creation of counter maps?

BECAME AN OCCASIONAL CARTOGRAPHER, THE AUTONOMOUS MAP-MAKER

Counter-mapping opens up cartography to non-expertise map makers. It asks participants to share their experience, their values, and their vision about a particular place (Lydon, in Parker, 2006). Tools, techniques, and technologies of cartography formerly restricted to "specialists", are socialized and reinvented. They are shared freely and thus expanded to non-conventional uses. (Mesquita, 2016). As the artist and cartographer Denis Wood argue in "This is not an Atlas" documentary (2019), Anyone can control their own maps:

"Are the people who make google maps cartographers in any way shape or form ? I can't believe they are. I think they are computer guys writing code. If they are controlling the maps you can control your maps."

Since the 20th century, the term neogeography has been used to define the popularizations of digital tools and the autonomous practice of occasional cartographers. They have been creating collaborative maps and developing their own terms by combining elements of existing toolsets. This practice is strongly connected with the production of counter-mapping, where the cartographer is encouraged to develop their personal and self-governing practice. Autonomous movements influence counter-mapping production. We can associate autonomous counter-cartographers with Autonomist Marxism theories, which emphasizes in the resistance and autonomy of the working class. In this theory, the working class is the active agent, while capital is reactive. Autonomous cartography helps produce new, alternative practices, knowledge, and subjects. (Dalton and Mason, 2012)

In 2016 Bourj Al Shamali community decided to become autonomous cartographers creating a collaborative map using a balloon mapping technique. At Bourj Al Shamali, a Palestinian refugee camp situated in Lebanon, the settlement's 23,000 current inhabitants have never enjoyed the privilege of owning a detailed map of their 135,000m2 grounds. "This is not to say maps of the area do not exist, they do, only they are classified documents protected by local authorities and international organizations" (Savage, 2016). Refugees camps are considered in Lebanon as controversial areas to be openly mapped, so their distribution on Google Earth or physical maps is limited or inexistent; residents are deprived of control of their geospatial reality. The creation of this counter-map allows them to have geographical consciousness of social and urban problems and fight for its improvements in the area.

THIS IS A MAP
Fig 2.1: Google Earth

Fig1.2: Balloon mapping
THIS IS A COUNTER - MAP

The elaboration of crowdsourced counter-maps has encouraged the production of manuals and guides of map-making, but how can autonomous cartographers be trained without compromising their autonomy? These guides do not define a path to follow as a cartographer counter but break barriers to face counter-cartography. The guide "Manual of Collective Mapping" designed by counter-cartographers Iconoclasistas, removes fear to produce maps, break technical barriers, and give inspirational references. The difference between mapping manuals and counter-mapping manuals is that the mapping guides define solutions while the counter guides launch unanswered questions putting the reader in a critical and richer position when facing the development of a map. "The co-production of critical knowledge generates rebellious bodies. Thought about rebellious practices gives value and power to those practices" (Malo, 2007 in Dalton and Mason, 2012)

CHAPTER 3. ACTIVATION AND PROPAGATION OF COUNTER-MAPS IN OUR POST-DIGITAL ERA, GIVING SOCIETY THEIR KNOWLEDGE BACK!

"Counter-Maps are as good as how much they circulate. A map that no one sees is barely a map." (Dávila, 2019) . Visibility and circulation became crucial aspects of map dissemination. The popularisation of mapping tools facilitates accessibility to readers, but it also generates an overwhelmed mapped world. This requires re-design communication strategies that combine activation, engagement, and readability. As the artist and geographer Trevor Paglen explains in an interview with Michael Dear (2009):

> "We don't spend enough time worrying about opening up spaces for communication. And we have to learn how to communicate beyond expert circles. Some ideas are complex and complicated and difficult to explain, but too many times, we let our language and jargon get in the way. If I can't explain something to my dad then I feel I'm not trying hard enough."

Counter-maps are more than data visualization tools. They are communication and broadcasting mechanisms. The ways that geography represented knowledge of other people, places, and events to ourselves and others through cartography, words, statistics and images of necessity all came under review. The point of all this was not academic navel-gazing, but something much more important: to reach a broader audience. Since geographic concepts are so important to the public sphere, old geographic concepts had to be rethought, revolutionized, and in some cases simply exploded to make way for new thinking. (Lewis and Wigen in Ketchum, 2011)

COUNTER-NARRATIVES

The universality of graphical formats calls for a new critical and humanistic interpretation of the ways we read and process visual information (Drucker, 2014). Like reading a graphic novel, The main goal of literary cartography, as synthesized by Moretti (1999), is to rearrange the components of a narrative in an unexpected way in order to bring to the surface hidden configurations. Counter - maps challenge traditional cartographic storytelling exploring non-linear and experimental narratives that achieve people have a personal understanding of the map. "A good map stimulates the imaginations of users who invent road trips, battles, and love stories as they follow the long spindly highway lines and pools of blue water" (Berwick, 2010). Counter-maps never need to be considered finished; the reader closes the circle of production. (*8).

In Die Neue Typographie (The New Typography, 1928), the graphic designer Jan Tschichold observed that "as a rule, we no longer read quietly line by line, but glance quickly over the whole, and if our interest is awakened do we study in detail." (Vossoughian, 2011). Speculative and experimental narratives are needed to engage with the audience and to process visual information. The deconstruction of conventionalism urges us to read between the lines of the map (Harley, 1989). There are no more boxes into boxes and hierarchical structures but a door open to alternative reading.

In the 70s, the Czech geographer A. Kolácny (*6), established the bases on which maps were no longer understood as mere information display elements to become a communication system that requires its own narrative rules and rhetorical figures (Mesa del Castillo, 2012). This statement, named Map Communication Model, was revolutionary in the dissemination of maps. It can be understood as a starting point to open up to narratives strategies in map-making. However, it is desynchronized when we talk about counter-mapping. Counter-cartographies modifies this communication model introducing dynamic positions of the reader, removing borders between cartographer and reader perception, and maximizing connections during the map-making process.

Kolacny model presents reality as a result of the cartographer's reality and the map user's reality. Counter-cartographer is overlapped with the map-user reality and distant from the official cartographer reality, filling a gap in the marginal reality that is not represented in official maps. The introduction of noise in counter-map making is also an important aspect; the cartographer or cartographers have the freedom to introduce elements with a goal distant from just a cartographic communication. This noise produces engagement or generates identity in the population that is represented there and is a potential element to connect the map with the reader. "Shannon-Weaver" introduced it in his model of communication as something that reduces the effectivity of the communication. However, counter-mapping noise can be used to achieve the
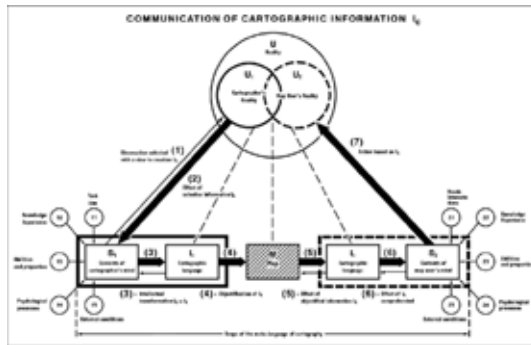
opposite effect. Moreover, Kolacny considers the cartographic language as a group of visual conventions designed by the cartographer and decoded by the viewer. In counter-mapping, cartographic language would be replaced by democratic language and created in a constant ping pong design process between cartographer and user. Ambiguity is also an important aspect in counter-mapping as a tool to enrich the process of interpretation and generate a critical understanding of the maps. They employ ambiguity not to muddle matters; on the contrary, it is used as a means to activate their public(s) and to provoke new ways of seeing and actively participating in the world. (Scott, 2011)

FORMAT CRISIS, IT'S TIME TO EXPLORE THE OUTPUT

We live in a time when we are saturated with digital publications. We have more maps published online than we can process in our lives. Online tools are powerful, but publish a map on the internet is not enough to make it work. On the other hand, physical publications have traditionally been the support of maps and cartography, but it is still efficient?. This duality of standardized formats for maps can be enriched with an external process to make them engage with the public. There is a considerable urgency to reinvent the format and discover new mediums for knowledge amplification. We should keep questioning in our map-projects " What form(at), or medium, most fittingly represents my subject? What will particular formats allow, or not allow, me to convey?" (Scott, 2011). The most exciting tools for map amplification live somewhere sparsely explored between online and real space.

Breaking format limitations allows exploring human and visual opportunities of dissemination. Can maps or diagrams be performed and embodying using human capacities to amplify its visual language?. The artist Lize Mogel in her project "Performing infrastructure" (part of the larger project " Walking the Watershed") explores the relationship between NY and distant places that supply the city's water and make that visible to citizens. She has been working with the opportunities for embodying diagrams. She ran a workshop where participants represented the connections between parts of the water system, and their clothes showed elements of the infrastructure. They represent the connection with their arms and hands. This performance was an experimentation of envisioning the water as a social connector. Through the process of the display, she worked on the activation of the public, understanding the map being part of it, and comprehending the rest of the element based on human relations.

The relation of cartographies and space is irrefutable in its representation, but maps are rarely though as spatial or urban elements. Is it possible to create spaces for counter-map amplification? In the project "Anti-eviction house" (although the central part of the project was based on the construction of digital maps), the community team up with Clarion Alley Mural Project, and they paint a 20 feet mural in San Francisco, rendering one of the digital maps. Space next to the mural became a meeting point to listen to and discuss. It became part of the city, an urban element to interact with, and reinforce community links. The counter-map display space but also produced it.

THIS IS A MAP

Fig1.2: Anti-eviction mural in SFCO
THIS IS A COUNTER - MAP

"Cartography does not merely represent, but rather generates something that results from the involved persons' relation." (Olmedo, 2016). Counter-maps and experimental systems of representation also open up to explore interpretation and reception possibilities. Cartographies tend to be elements perceived by our visual conception, but can we complement that exploring new senses and strategies for cartographic communication?. The project Textile maps explore the introduction of sensitivity in the production of geographical knowledge. This collective project developed in Morocco by a women community visualized the relationship between women of Sidi Yusf and places they live and work. They build a collection of textile maps mixing vernacular and academic knowledge in the work that they describe as "post-representational" and is presented as a research object itself. The map is created and read using tactile language. The mapmakers sew and embroider, and the readers touch and manipulate the map to translate it. Textile maps demand the involvement of the body in producing, perceiving, and understanding geographical knowledge making the reader a dynamic and sensitive character.

AN OPEN-ACCESS PUBLICATION

The accessibility of counter-cartographies is a crucial point in their dissemination process. They contribute to public knowledge; it is not only about to have information available but reachable, readable, and comprehensible. The project This land is our land (596 Acres) converted open data in open space in the city of New York. First, they fought to transform the data about property owners in NY in open data because citizens deserved to have this information. This data was stored in Open data portals, so it was available, but it was not reachable for most of the citizens due to technical barriers. Under the slogan "Open data becomes open space" 596 Acres, signed with physical cartels the vacant properties that were owned by the government. They also put information on the fences that surround vacant lots, welcoming citizens to use these spaces that were already public even if they did not know.

Cartographies have traditionally been pictures of the moment of something that is constantly changing. However, maps can also be understood as dynamic and changing elements where communication with the reader is constant and always accessible. The accessibility of the map is also part of the nature of this representation. The project Mapping safe passages is a real-time intervention map at the Maritime borders in Europe in order to guarantee safety to vulnerable people in the sea. The platform that manages the map a streaming view of the sea situations sending information about potential risks at the moment but also receiving SOS calls and guaranteeing that are listened in order to have the assistance that is needed. This type of map has to be always available and always updated in order to reach their goal. Therefore, accessibility became a crucial issue in their dissemination.

When we are talking about open access, we also have to question what we are able to do with the information we access. Counter maps used to be free and open elements to access, but does this accessibility implies reproduction an appropriation of this information? Replication of

counter-maps can be a strategy to improve its dissemination. Media, visual, and information products are by default subject to market and property logics so technically and legally, they can be viewed but not shared. Counter-cartographies, where open and free access and repro-duction can be helpful in the spreading process, frequently use legal tools to permit its repro-

duction. Applying licenses such as Creative Commons or copyleft, the redefinition of the default copyright is possible. Understanding counter-maps as open documents is a powerful strategy to reach more people. The Argentinian duo Iconoclasistas describe its process of dissemination like that:

"We shared our resources and practical experience on our website in order to not only set them free from barriers of private property but also from economic, physical and geographic restric-tions. The website is a multimedia support in order to spread and share the material we produce and to foster its appropriation through Creative Commons licenses. Resources uploaded to the web for reapropiation, reproduction and redefinition turn this virtual means into a collective tool through which hierarchies are dismantled and exchange is stimulated. In consequence, users become producers recurring to liberated production."

Nevertheless, the open nature of counter-maps and the encouragement of access and spread data also implies risks. The goal of make this information public is to raise awareness, spread critical knowledge, to provoke collective action, and an endless list of social motivations. Howev-er, counter-maps are not tools to make a personal profit. Counter-maps information in the wrong hands can also be dangerous and generate the contrary effect. The accessibility is, therefore, an essential point for dissemination but also for protection. Sensitive data is represented in coun-ter-maps, and it has to be guaranteed that it is going to have a positive impact on making it public. For example, if a counter-map represents poverty or people at risk of exclusion in order to visualize it and to detect where areas have a high degree of vulnerability. It can be under-stood as a potential map to focus the support in this areas and have a positive impact on them or, in the hands of banks or economic power structures this data could be used to redlined that districts (hinder access to housing and loans to an area due to t its socio-economic information). This practice would be contrary to counter-cartographies goals and nature, so protection is also crucial in dissemination strategies. Some protection strategies could be the accuracy of the data that is published, the anonymity, or the medium that it is spread.

SOCIAL IMPACT, COUNTER-MAPS FOOTPRINTS

While cartographies are frequently understood as query documents, counter-cartographies leave footprints through society, activating citizens, and pursue to have a social impact on them. They are mechanisms to disseminate a message to society that should stay longer than the document itself. It requires a process of amplification through material or immaterial imprints in society. Therefore counter-maps are transformed into political actions, educational tools, or urban gestures that keep the goal alive among citizens and shape their critical understanding of space and social issues.

Empathy and engagement with the audience are crucial actions to have a broader impact on society. The positive reaction in counter-maps dissemination appears to be based on the ability of the map to engage audiences instinctively and emotionally (Moss and Irving, 2018). Coun-ter-maps are characterized not only for being maps that represent realities but also for being elements that are useful for communities. This is a crucial point to make people feel represented and to achieve a responsive audience where a map is suitable.
Counter-maps trigger people to mobilize and generate calls for action that can generate political pressure. Social movements listened by the right people can end up in political actions that stay in a society, improving the lifestyle of communities and societies. The goal of a counter map is to generate a positive action for the society that can cause a long-term positive effect. Counter

maps are incredibly successful when they generate pressure to draft new laws, new social allowances, or new resources or infrastructures.

Education is one of the fundamental pillars of society. Maps and cartographies are frequently used for educational purposes. They are fruitful elements to teach how we understand the space and the world. Precisely because of its efficiency, counter-maps are very advantageous tools to familiarize alternative spacial perceptions. Educational inputs are essential in our personal development. They are significant pieces in the constitution of our moral, troughs, and standards. Counter-maps which achieve to have an educational role, stay in reader's heads for a long time, not as an imposition but as a reflective motivation that invites to think about divergent realities and how do you want to approach them.

Maps and urban scenarios have always had strong links. Counter-maps are extraordinarily powerful and efficient elements for metropolitan revitalization that reveals hidden social information. Architects and urban designers have an essential role in the development and interpretation of counter-maps. Cartographies can become tools for identifying potential urban conflicts and draft solutions, and architects and designers can match the with design and strategical urban decisions. Good urban design it the one that listens to the people who are going to use it and improve their life, their experience, and their perception of space, three crucial issues represented in counter-maps.

CONCLUSION

WORK IN PROGRESS

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Mesquita(article in this is not an Atlas)